

## **REMARKS**

### **I. Status of the Claims**

Claims 1-14 are pending.

Claims 1-14 stand rejected.

Claims 1-14 have been amended. No new matter has been added.

### **II. Objections to Drawings**

The Examiner objected to the drawings because the following claimed features are not shown in the drawings: (1) “means for blocking”; (2) “a means for putting or not the artificial muscle under pressure”; (3) “several artificial muscles in series arranged on the same branch of the loop”; (4) “a device to be moved is linked directly to the cable”; (5) “how the device to be moved is linked to the cable via a pulley transmission”; and (6) “at least one of the pulleys is linked to a fixed point via a resilient means”.

In response, the applicant proposes amendments to the drawings as shown in the Proposed Amendments to the Drawings submitted herewith. Figs. 1A through 1H and Figs. 2A through 2H are being amended and new Figs. 3 through 6 are being added to properly show the claimed and disclosed features (2), (3), (4), (5), and (6) identified above. Thus, removal of the objection to the drawings with respect to items (2) through (6) and approval of the proposed amendment are requested.

The objection to the drawings with respect to the item (1), however, is respectfully traversed for the following reasons. The means for blocking the pulleys are illustrated in the figures by the arrows next to the particular pulley being blocked. This is described in the

disclosure of the originally filed specification, for example, on page 3, lines 28-30. The actual mechanism(s) for blocking, which are generally well-known in the art, are described in the specification as: “for example, a pneumatic brake or a spring ratchet wheel with a removable locking ratchet, the ratchet being controllable by pneumatic means or by a solenoid.” (*See* the specification as originally filed, for example, on page 3, lines 17-21).

Accordingly, the applicant believes that the drawings, as amended, overcome the examiner’s objections.

### **III. Amendments to the Specification**

The specification has been amended at several places to correspond to the proposed drawing amendments being submitted herewith in response to the examiner’s objections to the drawings. For example, the reference numerals for the disclosed but previously not illustrated features added to Figs. 1A through 1H; Figs. 2A through 2H; and new Figs. 3 through 6 were added to the specification at appropriate sections. Thus, no new matter is added by these amendments.

### **IV. Amendments to Claims**

Claims 1-14 have been amended replacing the recitation of “characterized in that” with “wherein” to correct the form of the claims.

Claim 3 has been further amended to recite that “the system of claim 2, wherein said system further comprises at least one additional artificial muscle arranged in series with the single artificial muscle on the same branch of the loop.” This aspect of the present invention is

fully supported by the disclosure of the originally filed specification, for example, on page 2, lines 23-25. Thus, no new matter is added by this amendment.

**V. Rejection under 35 U.S.C. 112**

The Examiner has rejected claims 1-14 under 35 U.S.C § 112, first paragraph, as failing to comply with the enablement requirement. This rejection is respectfully traversed.

Specifically, the examiner identified the following claimed elements as being non-enabled:

- (a) the means for blocking the two pulleys; and
- (b) the means for putting the artificial muscle under pressure.

Regarding the claimed element (a), the enabling disclosure for the means for blocking the two pulleys can be found on page 3, lines 18-21, of the originally filed specification. The disclosure describes that the blocking means may be “a remotely controllable blocking system, for example, a pneumatic brake or a spring ratchet wheel with a removable locking ratchet, the ratchet being controllable by pneumatic means or by a solenoid.” Furthermore, such blocking means is well-known in the art at the time of the filing of the present application, as exemplified by the reference submitted by the applicant in the Information Disclosure Statement dated February 28, 2003, U.S. Patent No. 4,664,232 to Takagi *et al.* (“Takagi Reference”) And hence, the details of such blocking means need not be described in the application.

Regarding the claimed element (b), the means for putting the artificial muscle under pressure, i.e., inflating the artificial muscle, are also well-known in the art at the time of the filing of the present application, as exemplified by the disclosure of the Takagi Reference.

Accordingly, the details of such means for putting the artificial muscle under pressure need not be described in detail in the application.

Therefore, the applicant believes that the pending claims comply with the enablement requirements under 35 U.S.C. § 112, first paragraph. Withdrawal of the rejection of claims 1-14 under 35 U.S.C. § 112, first paragraph, is respectfully requested.

The Examiner also rejected claims 1-14 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. This rejection is respectfully traversed.

Specifically referring to claim 1, the Examiner states that the meaning of the limitation “a means for putting or not” is unclear. As described on page 2, lines 12-19, of the originally filed specification, the phrase “a means for putting or not the artificial muscle under pressure” refers to a means for putting the artificial muscle under pressure or not. In other words, a means for inflating or deflating the artificial muscle which is well-known in the art as shown by the disclosure of the Takagi Patent. This is further supported by the disclosure on pages 4-6 of the originally filed specification describing the operation of the system of the present invention during which the artificial muscles are alternated between inflated (expanded) state and deflated (contracted) state.

Referring to claim 4, the Examiner states that the meaning of the terms “complementary manner” is unclear. The terms “complementary manner” means in an alternating manner as supported by the disclosure as a whole and taking the terms “complementary manner” in the context of the operation of the system of the present invention. As disclosed in the specification, “putting under pressure in a complementary manner said artificial muscles at the rate at which

the pulleys are blocked and unblocked” clearly means alternating the artificial muscles between inflated (expanded) state and deflated (contracted) state at the rate at which the two pulleys are blocked and unblocked. Support for such operation of the system of the present invention is found on pages 3-6.

Referring to claim 7, the Examiner states that it is unclear how the device to be moved is linked to the cable via a pulley transmission. The link between a device and the cable may be established by one of many well-known assembly means and need not be described in the application. An example of such assembly means is disclosed in European Patent Application No. 0647786 A1, submitted in the Information Disclosure Statement of February 28, 2003. For the reasons discussed above, the applicant believes that the pending claims comply with the requirements of 35 U.S.C. § 112, second paragraph.

Accordingly, withdrawal of the rejection of claims 1-14 under 35 U.S.C. § 112, second paragraph, is respectfully requested.

## **VI. Summary**

Applicant believes that all of the Examiner's objections and the rejections have been addressed and overcome. Accordingly, withdrawal of the objections and rejections and a favorable consideration of this application is requested.

If the Examiner believes the prosecution of this application would be advanced by a telephone call, the Examiner is invited to contact the applicant's attorney at the telephone number indicated below.

No fees are believed required for the filing of this Amendment and Response.

Respectfully submitted,

Date: 3-10-04

Arthur L. Plevy / WJK

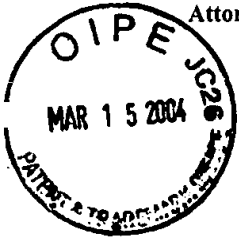
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Attachments: Proposed Drawing Amendments with clean and marked up drawings



Certificate of Mailing Pursuant to 37 C.F.R. § 1.8

I hereby certify that this paper, and any paper or fee referred to as being transmitted herewith, is being deposited with sufficient postage with the U.S. Postal Service First Class Service pursuant to 37 C.F.R. § 1.8 on **March 10, 2004** and addressed to:

Mail Stop NON-FEE Amendment, COMMISSIONER for PATENTS, P.O. Box 1450, Alexandria, VA 22313-1450.

Won Joon Kouh

Name of Person Mailing Paper

  
Signature of Person Mailing Paper

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In Re Patent Application:	: Group Art Unit: 3682
Philippe Cinquin	:
Serial Number: 10/031,052	: Examiner: Vicky A. Johnson
Filed: 06/05/2002	: Attn. Docket No.: Cinquin-2
Title: PNEUMATIC DISPLACEMENT SYSTEM	: Date: March 10, 2004

Mail Stop NON-FEE Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PROPOSED DRAWING AMENDMENTS**

Sir:

The applicant respectfully requests approval and entry of the amendments to the drawings as proposed and shown in the attached drawing sheets. A clean copy of the Replacement Sheet 1/2 and an Annotated Marked-up Sheet 1/2 are attached along with a new drawing sheet 2/2. The proposed changes are highlighted and annotated in red ink in the Annotated Marked-up Sheet 1/2.

The drawings are being amended in response to the examiner's objections in the Official action mailed December 10, 2003. The proposed changes are fully supported by the disclosure

of the specification as originally filed as fully discussed in the Remarks section of the accompanying Amendment And Response To Office Action.

For the reasons discussed in the Remarks section of the Amendment And Response To Office Action, the applicant believes that all of the Examiner's objections to the drawings are overcome by the proposed amendments to the drawings. Accordingly, approval and entry of the proposed amendments to the drawings are respectfully requested.

Respectfully submitted,

Date: 3-10-04

Arthur L. Plevy / WJK

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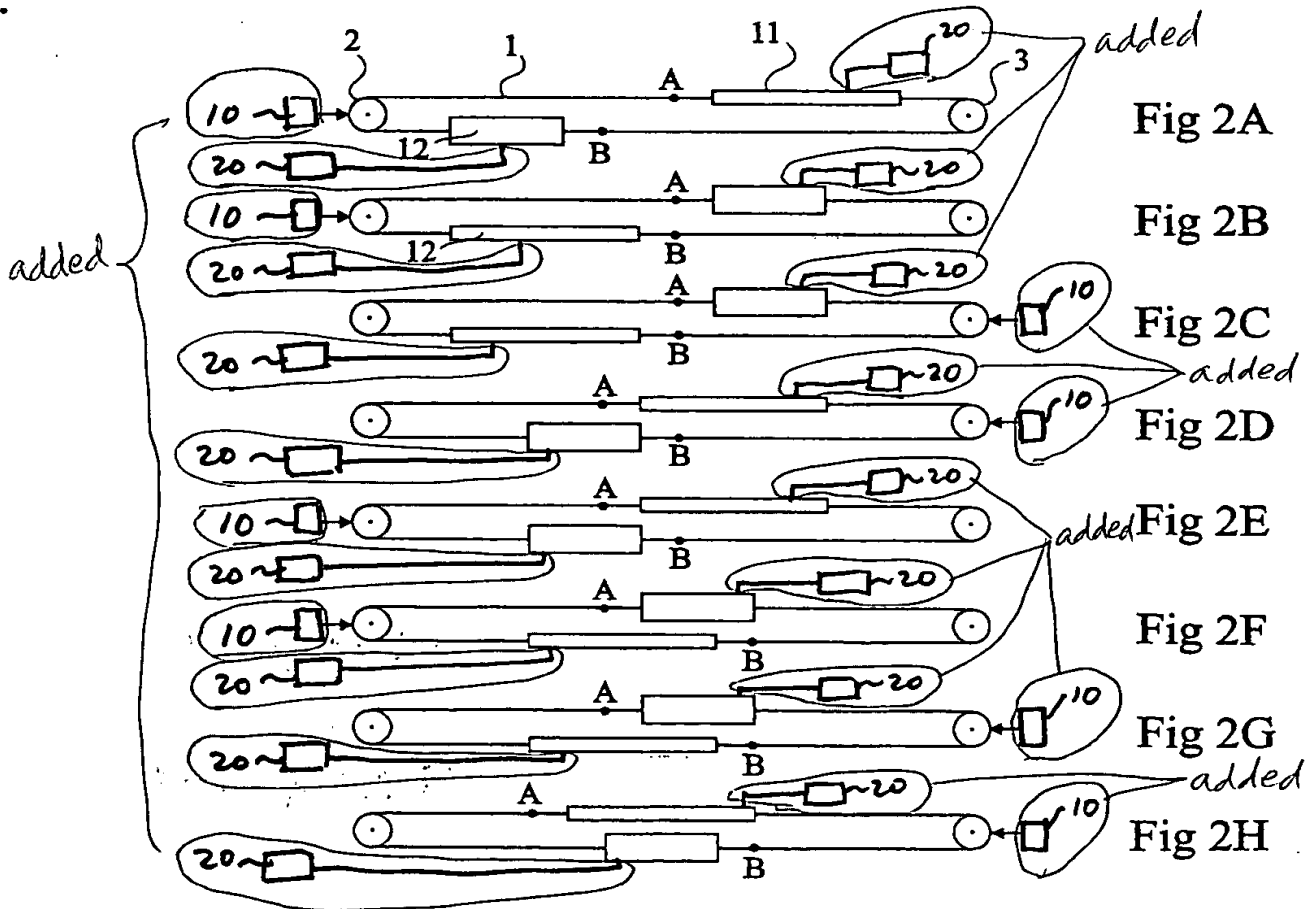
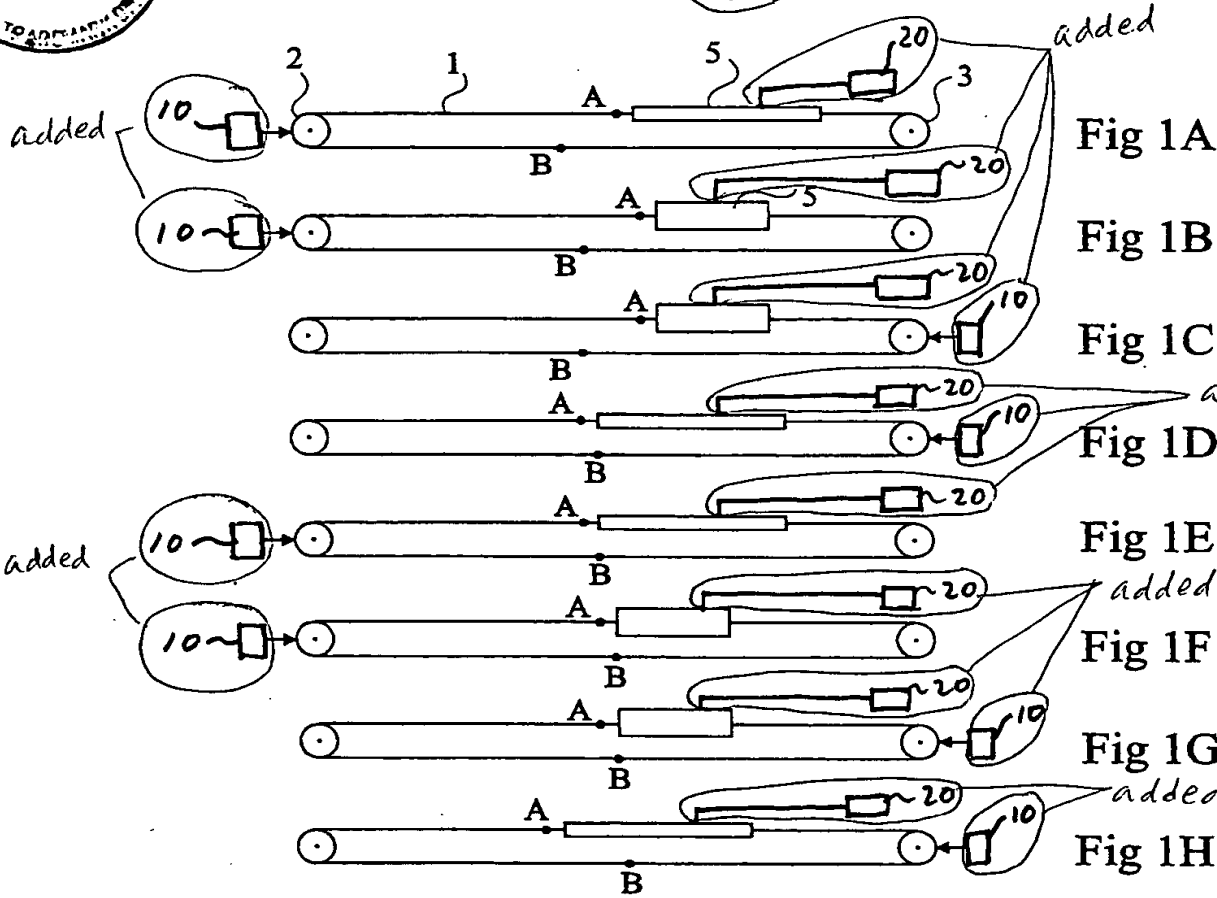
Attachments: Clean drawing sheet 1 of 2; Marked up drawing sheet 1 of 2; clean new drawing sheet 2 of 2.





ANNOTATED MARKED-UP SHEET

changed from 1/1  
1/2



2/2

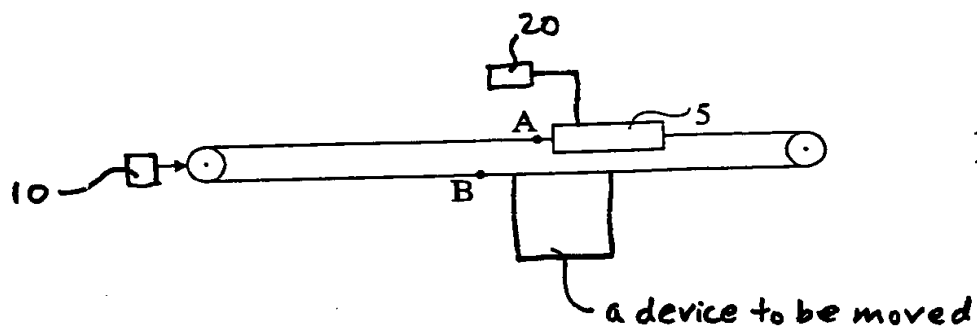


Fig 3

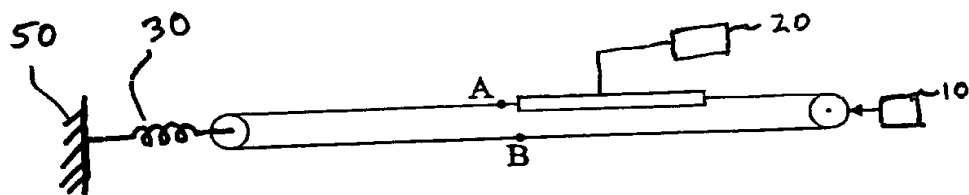


Fig 4

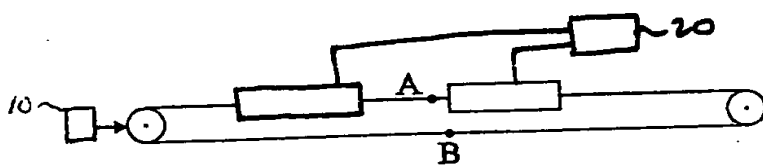


Fig 5

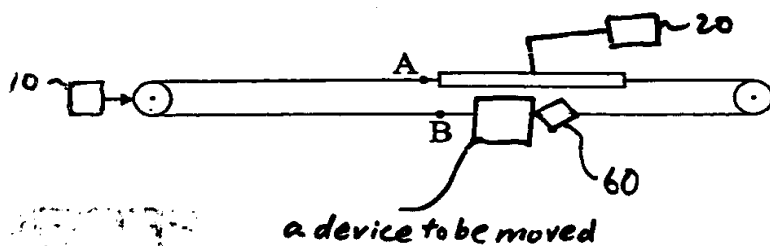


Fig 6